REMARKS

Claims 1 and 13 have been cancelled and claims 2-12 and 14-27 remain pending in the above-referenced patent application. Applicants amended claims 2 and 14 to clarify the claimed invention, and refer to Figs. 3A-3E and their corresponding description in the specification for an exemplary embodiment and support for the amendments. Applicants also amended claims 5, 7, and 12 to correct minor errors. No new matter has been added.

Applicants acknowledge with appreciation the Examiner's indication that claims 7-11, 19-23, and 25 contain allowable subject matter, and submit that the reasons provided include only the Examiner's interpretation, which should in no way limit the scope of the allowable claims.

Claims 2-6, 12, 14-18, 24, 26 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,501,804 to Rudolph et al. in view of U.S. Patent 6,215,798 to Carneheim et al. Applicants amended base claims 2 and 14 in a good faith effort to clarify the invention as distinguished from the cited prior art references. The Examiner's rejection is respectfully traversed.

The Examiner acknowledged that Rudolph et al. fail to "teach extracting the zero-point based on the established synchronization," page 3, lines 10-11 of the Office Action, and relied upon Carneheim et al. as a combining reference that allegedly suggests this feature.

Carneheim et al. describe a scheme for synchronizing parallel channel transmissions by inserting a synchronization bit sequence into transmitted data frames and extracting the bit sequence for aligning data frames from the various parallel channels. Please see, e.g., the abstract, Figs. 3, 4, and their corresponding description in Carneheim et al. The bit sequence is

inserted as a kind of marker for indicating the relative positions of transmitted data frames so that

such data frames received from parallel channels may be aligned to reconstruct the original data

stream. In other words, Carneheim et al. describe extracting a bit sequence for synchronizing

transmitted data. As such, Carneheim et al., as applied by the Examiner, do not disclose or

suggest extracting the bit sequence based on any otherwise established synchronization.

The Examiner even acknowledged that Carneheim et al. do not disclose extracting a zero-

point, but argued that the reference describes using zeros for synchronization. The Examiner

further argued that since Applicants have not disclosed an advantage of using a zero-point, that it

would have been obvious to one skilled in the art to modify Carneheim et al. to extract only

zeroes for synchronization. Applicants refer to Figs. 3A-3E and their corresponding description

in the specification for an exemplary embodiment demonstrating the advantages of the claimed

invention. Neither Rudolph et al. nor Carneheim et al. provide any suggestion that the use of

zero-point would derive such advantages in interpolating a noise component of a received signal.

And since Carneheim et al. only describe extracting a bit sequence for synchronization, it would

not have been obvious to one skilled in the art at the time the claimed invention was made to

modify and combine it with Rudolph et al. to yield the claimed invention in the manner proposed

by the Examiner. It was improper hindsight from the claimed invention to apply the

synchronization bit sequence extraction described in Carneheim et al. to the noise reduction

scheme described in Rudolph et al. to yield the claimed invention of extracting a zero-point for

interpolating a noise component of a received signal.

Neither reference includes any suggestion or motivation to modify the bit sequence

extraction described in Carneheim et al. to be based on an established synchronization and for

interpolating a noise component of a received signal. Therefore, even assuming, arguendo, that

it would have been obvious to one skilled in the art at the time the claimed invention was made

to combine Rudolph et al. and Carneheim et al., the combination would still fail to teach or

suggest,

> "periodically inserting a zero-point into a transmission signal,
> establishing synchronization based on a received signal,
> extracting the zero-point based on the established synchronization
> and interpolating a noise component of the received signal by
> using the zero-point, and
> subtracting the noise component from the received signal, "as
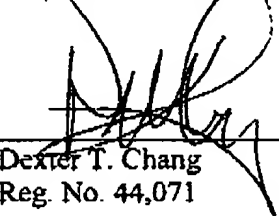> recited in claim 2. (Emphasis added)

Applicants, thus, respectfully submit that claim 2, together with claims 3-6 and 12

dependent therefrom, is patentable over Rudolph et al. and Carneheim et al., individually and in

combination, for at least the above-stated reasons. Claims 14 and 26-27 include features similar

to those of claim 2 cited above and are, therefore, together with claims 15-18 and 24 dependent

from claim 14, patentable over the cited prior art references for at least the same reasons.

The above statements on the disclosures in the cited references represent the present

opinions of the undersigned attorney. The Examiner is respectfully requested to specifically

indicate those portions of the respective reference that provide the basis for a view contrary to

any of the above-stated opinions.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,

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